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QL QUANTA

THE DEFINITIVE QL MAGAZINE



EDITORIAL

NEWS

CHARMAN'S NOTES

QUBIDE

TSP

FEW QUIT

COMMENT

COPYDATE



QUANTA

INFORMATION ON THE ASSOCIATION

Membership of QUANTA, the independent QL user group, is by annual subscription. The Membership Secretary can supply full details. Copies of the association's constitution & annual accounts are available from the Secretary.

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www.Facebook.com/QUANTA.org

Get your thinking caps on for this issue, why? Well in case you thinking the start of the year wasn't challenging enough with my inclusion of QL game last issue (pt. 2 will be next issue now, see later comment), this issue has a few things for you to think about.

Steve Poole's Travelling Salesman Program (TSP), this version is called 'Shrink_BAS' does, a very complex thing, eloquently. My feeble brain initially thinks that the problem is an easy one to solve. An industry generated by the needs of the people, provided by national and international companies, yes I am talking about logistics (cue the UPS advertising music). Let me give you a quote from Wikipedia:

“Logistics is the management of the flow of goods between the point of origin and the point of consumption in order to meet some requirements, of customers or corporations.”

<http://en.wikipedia.org/wiki/Logistics>

The TSP program attempts to do just one part of this and Steve would like feedback from QUANTA members, you know where to write.

But that's not all, there is a hardware emphasis this edition on the QUBIDE with a review from Peter Scott. Undocumented features from Per Witte on SMSQ/e and our usual features. Due to space for this issue, other articles including my own have been held over until the next issue. Oh and lastly read the comment on page 48

The Editor

If you have QL-related news items that you'd like us to include on this page, please get in touch with News Editor - Dilwyn Jones at news@quanta.org.uk

QUBIDE

Jose Leandro has made a new version of QubIDE, based on an unfinished project by Jan Polenicek from 2008 – see:

<http://omega.webnode.com/products/product-1/>

where you can find the circuit diagrams etc. Back in January, some QL users in Spain received the first batch of them, complete with 512K RAM on board (which can be disabled by unplugging the RAM chip and GAL chip) and optional Minerva and Toolkit 2, and software to transfer files from the PC (programmed by Habi).

Note that the QubIDE has no through port, so unless you have a backplane of some type, you can't attach a floppy disk drive interface at the same time, for example.

The QubIDE is supplied with a v1.56A ROM – Jose explained that using it with a v2.00 ROM causes formatting of attached devices to fail. The early boards were sold for a price of around €35 plus shipping costs.

The first mention on QL Forum explained that it worked fine with a QL-SD. That first batch quickly sold out and another batch was made. Then Jose put in an order for another 20 PCBs and that

batch sold quickly too, proving that there is still a considerable demand for QL hardware add-ons like this.



QubIDE with firmware version 1.56A

Jose has kindly prepared an online article about the Qubide and 512K RAM – read it in English at:

<http://hardware.speccy.org/temp/qubide-i.html> or in Spanish at:
<http://hardware.speccy.org/temp/qubide.html>

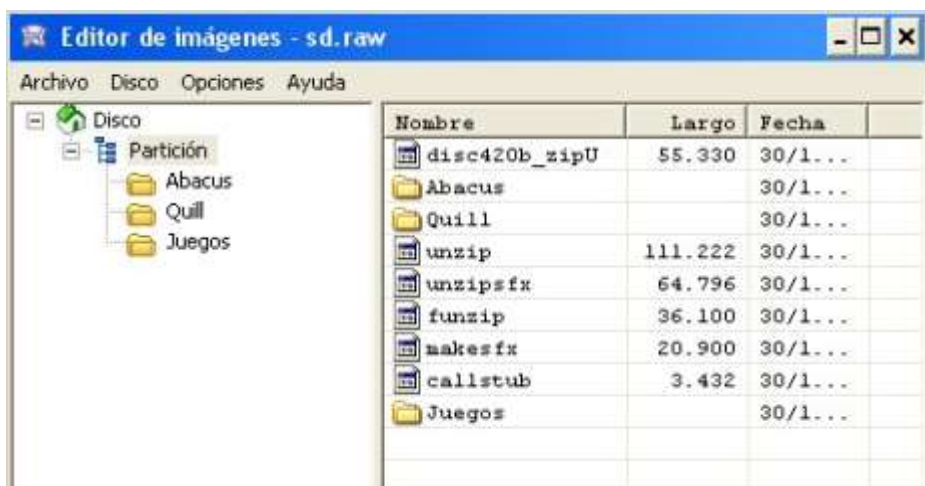
The article says that “Pin 20 of IDC connector is connected to +5V. It can be used to power some SD-IDE, CF-IDE adapters and DOM discs”. A DOM disk is a DiskOnModule, a non-volatile flash memory device intended to be connected to an IDE interface, a

solid-state hard disk if you like. It also has the advantage that no connecting cable is required since it just sits on the end of the 40 or 44 pin IDE connector. It comes in various capacities right up to a massive 8GB. It is also possible to use various compact flash (CF) and SD card IDE adaptor boards.



An example DOM device.

The online article also describes the Windows software, written by Habi, and called “Editor de imágenes”.



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Welcome

Quo Vadis Design sells software for the Sinclair Quantum Leap computer (QL) and variants including a new OS called SMSQ/E.

The QL is a computer in its 25th year Anniversary.

News

- QVD QL News Blog - keep up to date
[News Blog](#)
24/04/2009
- Quo Vadis Design Website Launched
21/02/2009

FEATURED PRODUCT



BUY NOW!

Software emulations of the QL now available which run on a PC/Mac with Windows/ Linux or Mac Operating systems.

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**QPC2 IS NOW FREE AND
AVAILABLE FROM MARCEL
KILGUS WEBSITE**

<http://www.kilgus.net/qpc/index.html>

**Congratulations to Marcel
on becoming a Father**

**Check the QL News Blog on
our website for updates.
www.ql-qvd.com/blog**

5 1 2 K R A M C a r d R e l e a s e d



512K RAM Card (Picture from SellMyRetro.com)

Paul Veltjens, who builds the QL-SD add-on, has released another piece of QL hardware in the form of a 512K RAM card. This has no through port connector. While this means you can't add another interface unless you have a multi-slot backplane, it does make it cheap and useful for QL systems which have an internal QL-SD interface, for example.

Paul is producing them in small batches and selling them through SellMyRetro.com for about 40 pounds plus shipping costs.

At the time of writing, only one card remained from the current batch, although Paul says he can make more if demand is there.

<http://www.sellmyretro.com/offer/details/QL-512K-RAM-CARD-FOR-EXPANSION-SLOT-4189>

DOC2RTF Updated

Mark Swift's utility for converting Quill document files to RTF (Rich Text File) format for transfer to other computers has now been updated by Tomas Kral.

Written in SuperBASIC, and requiring Turbo Toolkit, Tomas found a few issues with keyword names and rewrote it to bypass these problems.

The new version of the package, including the source code files, is available to download from :

<http://www.dilwyn.me.uk/filetran/index.html>

Turbo Manuals On iTunes Store

The Turbo manual, Turbo Toolkit manual, and Turbo Quick

Reference Guide eBooks are now available to download free from the iTunes store, thanks to Lee Privett. Just search for Turbo in the iTunes store.

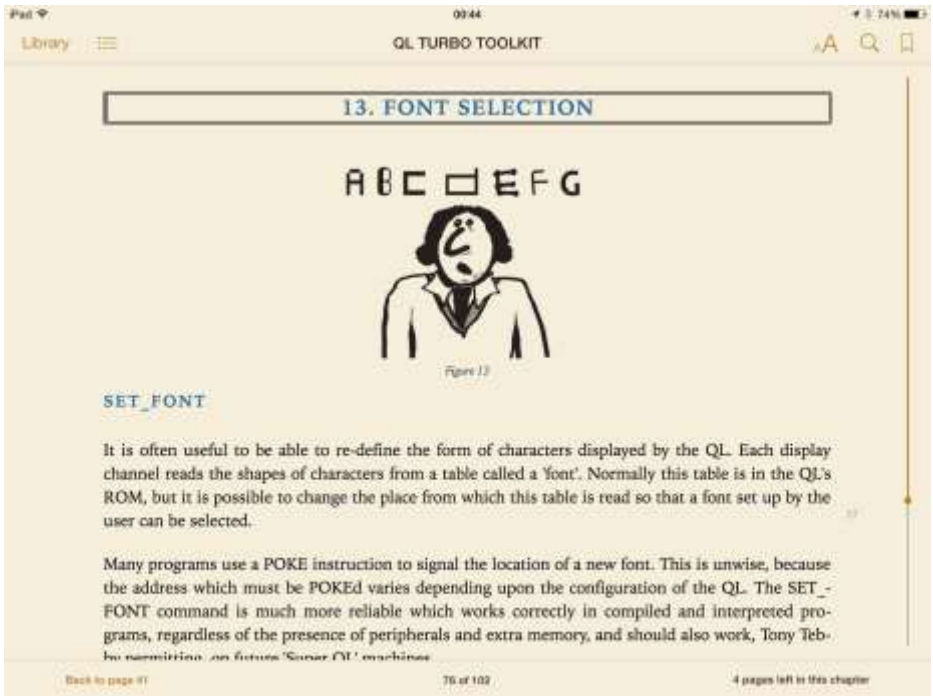


QL TURBO by Simon N Goodwin, Gerry Jackson, Chas Dillon & George Gwilt : <https://itun.es/gb/zXFr6.1>

QL TURBO TOOLKIT by Simon N Goodwin, Mark Knight, David Gilham & Lee Privett : <https://itun.es/gb/ls3s6.1>

QL TURBO Q-R-G by Simon N Goodwin : <https://itun.es/gb/aS-s6.1>

Lee has added graphics, more in keeping with the original Turbo manual.



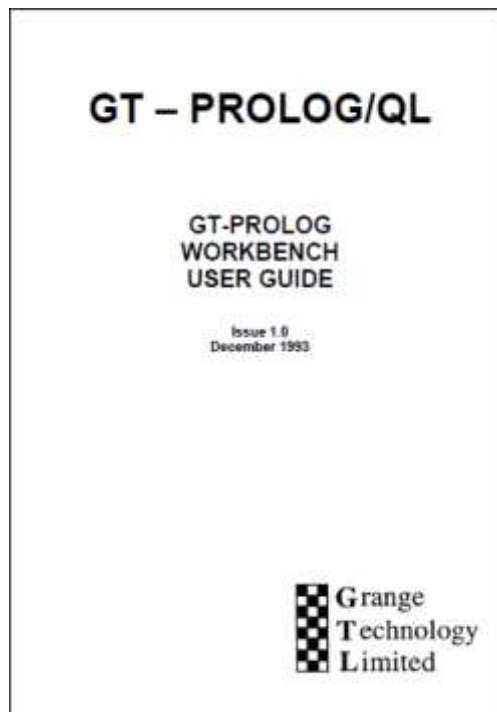
GT-Prolog Available As Freeware

The Grange Technology Ltd GT-Prolog compiler for use on a QL is now available to download as freeware, thanks to permission from Grange Technology.

Combining speed with low memory overhead, the program provides an interactive development environment supporting incremental compilation and debugging of Prolog applications. GT-

Prolog is a full implementation of the Edinburgh dialect widely used in industry. Requires 512K or more RAM.

Graham Thwaite has authorised the distribution of this software, originally released on QL in 1993, as Freeware. Unfortunately, no manual is available for it, does anyone have a manual which could be scanned? Olivier Baseley has kindly scanned the first part of the GT-Prolog manual, the Workbench User Guide, which is now available to download from the same page.



Screen shot of the Prolog/QL manual

If you have copies of the International QL Report from the period, there are two articles about this software in volume 4 issues 2 and 3 (pages 53 and 63 respectively) of IQLR magazine. I've scanned these articles to give some background on the compiler.

Also available is a version of the program zipped directly from a QemuLator folder. To use this with QemuLator, just unzip it using Winzip or 7-zip or similar to a Windows folder and attach that to a drive slot on QemuLator. Download GT-Prolog from :

<http://www.dilwyn.me.uk/language/index.html>

ROMS and Manuals

We have now been able to preserve a copy of the rare Kempston Centronics Interface ROM and of the utilities disk for the Technology Research disk and memory interface. These are available to download from :

<http://www.dilwyn.me.uk/qlrom/index.html>

in the “Assorted ROM Images” section.

A PDF file manual for the Computer One Monitor is now available to download from <http://www.dilwyn.me.uk/asm/index.html>

G . A . M .

GAM or Graphics Access Manager is a simple graphical front end for the QL computers, which builds upon the QDOS system's core functionality while providing easy to use pointer driven environment. It is intended for all unexpanded pre-SMS QLs - should run OK on 128K systems.

This is version 3.1 updated by Tomas Kral from original author Thomas Much's 1987 version 2.3. Tomas has updated the code to compile with Turbo, added serial mouse support and some extra functionality. A PDF of the manual is also available. Download from <http://www.dilwyn.me.uk/frontend/index.html>

QSLAM

QSlam is a game by Uwe Raabe. Slam has not done the washing up last week. He has to collect the diamonds. Use the cursor arrow keys to control the game. Dig to pick up the items. Dodge the cave ghosts and monsters. Before slam reaches the exit he must collect all the diamonds. Get extra points and lives if you can work out how. If the current level gets hopeless, press SPACE to repeat it. This is MDV version, runs in 128K RAM. QSlam was made freeware in 2015 by its author. Download from the Games page on my website at <http://www.dilwyn.me.uk/games/index.html>

Troll

Troll is a French role playing game, by Phillippe Laurent, which also lets you create and edit the scenarios via the built in editor module. The first adventure "Le Château du Prince félon" - "The Castle of Prince Traitor" is included. Currently, although English and French versions of the game are available, I only have a French manual. Download the game from :

<http://www.dilwyn.me.uk/games/index.html>

Pyramide Software

Several packages from former French QL software supplier Pyramide are now available to download as freeware, thanks to permission received from Daniele Purlich of Pyramide. In all, I have been able to make available the graphics package QL Peintre, Nucleon (a programming utility),

The Designer (a CAD package), Bag of Tricks (a pair of miscellaneous collections of little programs, extensions, etc., a kind of magazine on a Microdrive published by Pyramide in the 1980s) and a copy of the AZERTY ROM, which allows a British QL with

AH, JM, or JS ROM to support a French AZERTY layout keyboard. As these are on separate pages, have a look at the site updates list on my website, find references to the individual programs and follow links to each page. <http://www.dilwyn.me.uk/history.html>

Reassemble Minerva

Per Witte has kindly made available a 'HowTo' text file detailing how to reassemble the Minerva sources for those interested in doing so. Download the plain text file, PDF or Word document from the QL ROMs page on my website at :

<http://www.dilwyn.me.uk/qlrom/index.html>

(Disassemblies & Sources section).

SMSQmulator Updates

Version 2.05 of the emulator SMSQmulator for Java-equipped computers is available from Wolfgang Lenerz's website at :

<http://www.wlenerz.com/SMSQmulator/> .

Versions are available for systems with Java 6, Java 7, or Java 8. Here's a list of updates in v2.04 and v2.05:

v.2.05

Configuration item for delay after mouse click. Better handling of 0 count scroll wheel action (0 count is simply ignored)

SMSQmulator

- SMSQmulator 1.18 inifile data for delay after mouse click.
- MonitorGui 1.23 new config item for delay after mouse

RWAP Software

We have been working hard to safeguard the future of the Sinclair QL through creating an online QL Wiki backed by a repository of QL titles.

The QL Wiki enables people to see what software and hardware was produced for the Sinclair QL. The repository enables people to purchase working copies when their microdrive cartridges fail, or they move onto disks or emulators. Where we can, we obtain permission from the copyright holders to re-release items on the market.

This has enabled us to bring some of the titles back to the market as well as re-kindle interest in the Sinclair QL and its emulators.

Old favourites brought back to life include:

E.V.A., Vroom
Black Knight, Double Block
Jungle Eddi, The Lost Pharaoh
Pangl, the Lonely Joker
Microdeal's Flight Simulator, QL Hopper, The King,
Night Nurse and Cuthbert in Space
Mortville Manor, Darkside of the Moon [£10]

We still retain our existing catalogue, including:

Open Golf, Return to Eden,
Stone Raider II, The Praws,
Hoverzone, Lost Kingdom of Zkul,
Deathstriks, Nornarday,
Flightdeck and QWord

All games are available on disk or for use with Q-emulator on the PC **from ONLY £5 each**

Microdrive versions also available - from £10 each.
Memory / system limits may apply - please check before ordering.

Visit the QL Wiki for more details on software, books and hardware for the Sinclair QL:

www.rwapadventures.com/ql_wiki

RWAP Software
3 Dale View Court, Fulford, Stoke-on-Trent
Staffordshire ST11 9BA
Tel: 01782 398143
Email: rich@rwapservices.co.uk

Website:
www.rwapsoftware.co.uk or www.sellmyretro.com



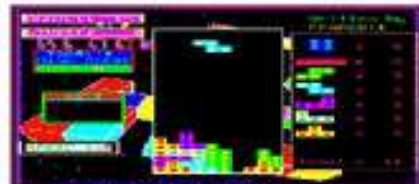
Vroom by Pyramide



E.V.A. by Westway



Mortville Manor by Pyramide



Double Block by Francois Lanleut



Night Nurse by Microdeal

click.

- Screen 1.13 better handling of 0 count scroll,wheel action; mouse click delay added.

v.2.04

Bugfix for remote qxl.win file access, where file-locking isn't possible.

SMSQmulator

- SMSQmulator 1.17 inifile data for qxl.win files lock error.
- MonitorGui 1.23 new config item for qxl.win files lock error..
- WinDrive 1.03 if so configured (in ini file), will now ignore lock errors for qxl.win file.
- WinDriver 1.02 setNames catches UnsupportedOperationException, if file lock can't be acquired.

•

Qlotski

Wolfgang Lenerz writes:

Fabrizio Diversi inadvertently prompted me to write this, so I've released a new game. It's a Klotski clone (a sliding tile puzzle) called ... (wait for it) QLotski. You can find it at the usual place:

www.wlenerz.com/qlstuff



2014 In Review

Geoff Wicks has written a review of 2014 for the QL. You can read this on his website <http://www.gwicks.net/justwords.html> (QL news page).

QL Cables

Retro Computer Shack have listed QL SCART and RS232 adapter cables for sale on the SellMyRetro.com website. The RS232 adaptor converts the non-standard British QL's 6-pin serial port connectors to the more common nine pin D female connector, making it easier to experiment with serial port connections. Also works on Spectrum models having the QL-style connectors. Price £11.49



The serial port adapter (picture from SellMyRetro.com)

The SCART cable is 2m in length, with the QL 8-pin DIN connector at one end and a standard SCART connector at the other, allowing a QL to be connected to a TV set with a SCART connection. This lead is professionally made using high quality materials and

workmanship. Made from high quality fully screened video cable, with a high quality gold plated SCART plug and nickel plated 8 pin DIN plug.

Additional components (resistors) are fitted inside the Scart plug, to ensure, the correct signal levels, and produce the best quality picture. Price £10.49

Tascopy and Tasprint

Back in January, Rich Mellor got confirmation from Accusoft Corporation, Tampa FL (who own the rights to Tasman products), that they are happy for both Tasprint QL and Tascopy QL to be made available as freeware.

Accordingly, both floppy disk and microdrive versions plus PDFs files of the manuals have been added to the printing software page on my website, at <http://www.dilwyn.me.uk/printing/index.html>

Tascopy is a QL screen printing utility, contains programs to produce grey scale, monochrome and poster size screen copies to Epson-style printers (there's a degree of customisation of printer type and codes possible).

The poster size screen copies are very large versions of the grey scale screen copies and are printed on more than one sheet of paper. Depending on the window size, the poster will be printed on 1, 2 or 4 sheets.

Tasprint is a QL style writer program, with which you can print plain text or Quill _lis (print to file) files in a variety of fonts then use the Tasprint editor to insert codes to indicate print styles to be used, up to 6 fonts available.

PC-QL File Transfer

Petri Pellinen has written a pretty useful guide to file transfer via serial cables between QL and PC, using terminal software. It's a pretty detailed guide and has been posted on QL Forum, at :

<http://qlforum.co.uk/viewtopic.php?t=1221&p=10128#p10128>

(page 2 of the “transfer from pc to ql is it possible” thread.

CHAIRMAN'S NOTES

SARAH GILPIN

We are at the start of a new QUANTA year with the Annual General Meeting being held on April 19th, electronically. Alison has received some proxy forms and Keith has made arrangements for Skype attendees.

There are no official QUANTA workshops this year, although QUANTA is holding some monies to be used for workshops held by anyone with an interest in the QL. NEMQLUG have offered to hold a workshop weekend on 26th and 27th September 2015, with a Chinese banquet on the Saturday night. We hope that it will be as big a success as last year's workshop in Edinburgh. The notice for the workshop is in this magazine and will be forwarded to both the QL Users list and the QL Forum later this month, when the magazine is posted out. Anyone who can think of another platform to advertise this weekend workshop, please contact me. It will be on the QUANTA website for anyone to see.

John Gilpin is working on the early magazines in order to make them available on the QUANTA Website. He is currently working on Volume 2, issue 9.

In late June 2013, a Spanish Speccy and QL fan José Leandro posted on the QL Forum about a QubIDE clone he was working on to address the storage issues with his plain black box QL only equipped with Microdrives. His aim was to provide a simple mass storage solution for unexpanded QLs. The topic can be seen at

(<http://qlforum.co.uk/viewtopic.php?f=2&t=566>)

José used information from an unfinished QubIDE project at

(<http://omega.webnode.com/products/product-1/>)

to make an initial prototype of his own QubIDE clone. The design was refined and tested with some bugs ironed out, and then production quality circuit boards were made to further improve the build. José's QubIDE clone is equipped with 512k of ram (which can be removed if needed) and version 1.56a of the QubIDE ROM. Version 1.56 was picked over the later version 2.0 as there had been issues with formatting drives using 2.0. Also available was an optional rom board to add an EPROM Minerva and TK2 to the QL.

The another puzzle that needed solving was how to get files on to the QubIDE drive without the use of a floppy drive as the clone has no through expansion connector by design, also a new QL owner might have a QL with no floppy expansion. Older expansion cards are now proving to be rare and very expensive, which is often a hurdle to overcome when attracting new users.

A user called Habi helped out by writing a PC windows based

JOCHEN MERZ SOFTWARE

Kaiser-Wilhelm-Str. 302
47169 Duisburg, Germany

Fax +49 203 502012
EMail: SMSQ@J-M-S.com

SMSQ.J-M-S.COM

Thanks to Marcel, QPC2 is now freely available.
You can download it from Marcells homepage

www.Kilgus.net

If you wish to print from QPC2, then you need

QPCPrint

... which is available from J-M-S.

Only 39.90 if you choose EMail delivery.

For additional 4 EUR, delivery will be on CD.

QPCPrint will allow you to print to (more or less) every printer which is installed under Windows (dot matrix, ink, laser, PDF "printer", FAX "printer" etc.)

You can place your order via letter or use the SSL order form on SMSQ.J-M-S.COM - click on "Online orders".

If you order by Mail or through the SSL contact form: We now accept VISA, MasterCard, Diners Club, JCB, Discover, UnionPay, BCard, DinaCard and American Express!

The order form has not been updated for the new card types at the time I write this ad, but it will be updated soon.

I am still working on changing the forms and implementing SEPA on all the order forms.

program which can access a QL IDE disk and also write to them to transfer files etc. More about this is explained with screenshots in the manual at: (<http://hardware.speccy.org/temp/qubide-i.html>)

I'll also discuss a slightly different method later on in the article.

The first two batches were made for sale to users on the Spanish Sinclair forum (<http://foro.speccy.org/index.php>) around December 2014. These initial batches were kept small and local to the Spanish forum to help with further testing.

Once José was happy enough with the feedback from these batches, he posted on the QL Forum in January to say he was happy to accept requests for the next batch. The cost would be the rather bargain price of 35 euros (around £25 at the time of writing) plus additional postage.

The batch was quickly snaffled up, with some users even joining the forum just to post a request for the new add-on. Twenty units would be made and it was now time to wait. In mid-February the PCBs had arrived and José could start the process of assembling them. By the end of February, the units started to be shipped to eagerly awaiting users. Since that time even more users have posted requests in hope there will be a further run of cards.

My own card arrived quickly and I decided to use my white QL which was fitted with a Minerva equipped QL-SD. The existing trump card was removed and the QubIDE fitted in its place.

The card has jumpers which need setting depending on your setup but the card was already configured for my setup.

The jumpers indicate which memory position the QubIDE EPROM

will take. On a side note the build quality of the card is excellent with the card resembling a fully commercial quality product rather than a hobby based production.



The QUBIDE card

I had initially planned to use an IDE to CF or SD adaptor as the IDE drive but the online manual mentioned using a DOM (disk on module) this is a small compact cartridge like drive (approximately the size of two Microdrives side by side) which fits directly into the IDE socket. I had never seen these before but they looked perfect.

I found one for sale on eBay, 512mb in capacity for £3.99 plus postage which seemed like excellent value for money. The manual mentions that pin 20 is already connected to +5 so it can power some flash based adaptors and DOM discs. A large traditional IDE drive would need an external power supply.



The White QL with DOM showing

With the card slotted home and the DOM plugged in, it was time to fire up the QL and the DOM was detected. After initialising, the drive is reported as not a QubIDE partition. The next step is to format the drive: `format win_1, 0` to use all the cylinders and I used 8 for the block size for a maximum partition size of 256mb but further partitions can be added later. A two pass format begins. The setting up process is also described in the original QubIDE manual, which is available on the same website as the clone manual. Hopefully I've picked the right options as I've never configured an IDE drive on a QL before.

Next up I thought about how to get new files onto the new drive, I could copy existing files from the QL-SD but how could I get something new over without a floppy drive? I'd skimmed over the online manual a bit too lightly and missed out reading up on the PC transfer program. However, I did not have IDE equipped PC on hand and I was also too lazy to rummage for my IDE to USB

adapter, wherever that had got too! I decided to give the QL-SD a go. A quick refresh of the QL-SD manual and the QL-SD Starter pack files and I had a plan:

I unzipped the extension.zip file to the Qemulator folder on my PC, this places a basic image file (which I'd later overwrite) and a .dll file into a folder called Extension. Then, I unpacked the BDI_RAM_Driver to an empty folder.

I copied my working QL_BDI.BIN from the SD Card used in my QL and overwrote the one in Extension. Next I loaded Qemulator, making sure the ram was set to over 384KB, pointed a slot to the BDI_RAM_DRIVER and loaded it with LESPR mdv1_BDI_BIN. I could then access sdc1_ (the SD card) like a normal drive. I then copied QubIDE Utilities disk zip file from Dilwyn's site at:

<http://www.dilwyn.me.uk/qlrom/>

to sdc1_ and closed down Q-emuLator. I then reformatted my SD card and copied the QL_BDI.BIN back over. Once back in the QL I unzipped the file and I now had access to files such as partition_exe for adding extra partitions to the QubIDE drive.

Another option would have just been to plug the trump back in, copy what I needed to the SD drive then reinstall the QubIDE but I wanted to see what I could do without having any floppy drive support.

I'm sure in the coming months we will see several ways of transferring files in a post floppy QL world. Will we see floppy discs starting to gather dust alongside our Microdrive cartridges?

To sum up José's QubIDE clone is a superb expansion at a bargain price and it's proving to be very popular in a short amount of time already. Hopefully new expansions like this will be the first stepping stone for new or returning users to the QL, who have an unexpanded QL and are wondering what to do next.

SHRINK - TSP

STEVE POOLE

Some 30 years ago I first read about the TSP. The problem is to devise the shortest circuit linking any number of towns, without crossing over one's path.

The problem was made famous by the mathematician Hamilton, who declared forfeit after defining it. It now forms one of the Six 'Millennium Problems' set up by the Clay Mathematical Institute.

At the time I could resolve the problem for 36 towns by hand, but could not figure out how to code it on my QL. Last spring I began the task, and finished the first buggy version in May. But I have been very occupied with other things, including much travelling, so I have only just found time to tidy up the code for QUANTA.

The idea underlying the code was to 'shrink-wrap' the nodes, by first getting the outer perimeter, then eliminating the longest perimeter-lines by finding the nearest inner points using very simple arithmetic.

Each perimeter line is then eliminated, and its end-pointed joined to the nearest inner point. To do this I set up a stack holding the outer lines, then add the new circuit lines as they are found. This makes for some complicated addressing as the program runs, yet

the output seems simple. This makes me wonder if I have written an efficient implementation of the scheme.

The output is 94% accurate on test data. There is occasionally 'crossover' due to the simplicity of the maths, but this is not of any great importance, and no doubt could be corrected with extra code.

The Fastest TSP program was called 'Concorde', but the 'Shrink' program runs 212 times faster, and in BASIC at that... I can do 800 nodes with QPC2 set to 128MB. Experiment to see how many nodes your system can handle. George Gwilt is currently producing a machine code demonstration version, and it will be interesting to see how much faster it runs.

I will not describe the program in detail here, as it is written in shorthand to keep the code compact.

It took about five sessions of four days to write, and I am planning to devise a completely new implementation in the next few weeks, as there are a lot of loop elements which are repeatedly recalculated. But this will mean using a much bigger array to hold partial results, and although the output may be quicker, the number of nodes will be greatly reduced. The trade-off remains to be determined. (The shrink machine code may allow many more nodes).

So after a year of continuous interruptions, I can now publish a stable version of this all new TSP method. A friend of mine may recode it in C++ for PCs, which should be faster than the BASIC.

So if you think you can see a better way of implementing the

method, do have a go, and please get QUANTA to print your improvements.

100 ::

110 REMark shrink_qta v9,2,15

120 CLEAR: RANDOMISE DATE

125 test=0: REMark test=1 for test data

132 :

140 OPEN#1,con_64: WINDOW#1,300,256,212,0

150 PAPER 4: INK 7: OVER 0: CLS

160 sc=1200: SCALE sc,-4,-4

162 :

165 IF test THEN

166 REMark 800 nodes on QPC2 set at 128Mo

168 z=36: ELSE INPUT'Nodes? (2 to 800)!'!z

169 END IF : zz=z*4

180 x=zz+1: y=zz+2: w=zz+3: a=zz+4: b=zz+5

190 top=0: ct=0: pts=sc-(sc/4)

200 DIM t(zz,b): pair=z+1

205 :

```

210 get_points: draw_circles: d1=DATE
220 IF d1=DATE: GO TO 220: ELSE d1=DATE
230 n=find_lowmost: fd=n
240 t(0,x)=t(n,x):t(0,y)=t(n,y)
250 find_outers: get_table
260 ct=ct-1 : ctr=ct
265 :
270 REPEAT boucle
280     twin=0: comin=1E12: find_twin
290     IF twin=0: EXIT boucle
300     draw_circuit
310 END REPEAT boucle
315 :
320 draw_circuit: INK 2: OVER 1
405 AT 0,1 : PRINT 'distance : '!dist
407 AT 0,30: PRINT DATE-d1!'seconds'
420 INK 7: CIRCLE t(1,x),t(1,y),8
430 i$=INKEY$(#1,1500): STOP
440 ::::::::::::::::::::::::::::::
450 :

```

```

460 DEFine PROCedure draw_circuit
470 LOCAL f,aaa,bbb,mx,my,nx,ny,mnx,mny,ds
480 CLS: draw_circles: dist=0: INK 0
490 FOR f=1 TO pair-1
500     IF t(f,w): GO TO 570
510     aaa=t(f,a): bbb=t(f,b)
520     mx=t(aaa,x): my=t(aaa,y)
530     nx=t(bbb,x): ny=t(bbb,y)
540     LINE mx,my TO nx,ny
545     mnx=mx-nx: mny=my-ny
550     ds=SQRT(mnx*mnx+mny*mny):dist=dist+ds
570 END FOR f
580 END DEFine
590 :
600 DEFine PROCedure get_table
610 LOCAL f,nn,kt
612 REMark get stack ready for links:
615 FOR f=z+1 TO ct: t(f,w)=0
620 FOR f=1 TO z: t(f,w)=f
625 :

```

SMALL ADS

:WE-NEED:

Any software for the Sinclair QL for preserving. The QL Preservation Group are striving to get working, archiving, checking and preserving a variety of programs. Check the QL Forum for contact information at: qlforum.co.uk

!!!Worried???

Don't worry about your spelling or grammar not being up to scratch, that is something we can correct or leave as necessary, the Editor's decision is final. Why not write a review, A review of a piece of hardware you have recently seen, obtained or bought that is related or used with the Sinclair QL. A review of a piece of Software you have bought or downloaded legally from a website that doesn't stick a virus on your system. Reviews of any other media such as books, magazines or even leaflets that other people may appreciate. Contact Mr Privett for details on how you can overcome your worry.

WANTED

With FTC (Fleet Tactical Command) 1 having being found, I'm now trying to track down FTC II by Diren which is currently missing in action. I'm also after Top Team by Arunsoft which was a football management game. If you can help please contact Peter at peetvanpeebles@yahoo.co.uk

LOST

The ability to do something positive, then submit something to the editor, you know it makes sense.

£££ SPARE-TIME?

Earn yourself lots of gratitude with a certificate of thanks by contributing something to the magazine. We cant pay you £££s or ££s or even £ but what you will be doing will be rewarding in itself and you get your name in typeset style lights (without the lights bit). **Interested?**, then contact the editor of the magazine via the contact page inside the front cover. **Not interested?**, then contact the editor of the magazine via the contact page inside the front cover. We will be glad to hear from you.

SHEDS SHEDS SHEDS

Shed loads of space for you to write or submit that SuperBASIC listing for the magazine. **Short** Listings - any number of lines really, from just a few to a couple of pages, single or multiple procedures and functions. As long as you have written to either solve or explore a programming problem. Or even just for a bit of experimental fun. **Long** listings? No program is too big, no language too strange, whether its just concepts, SuperBASIC, block diagrams, Boolean logic, assembler, mnemonics (that's one for you George), C# C++ C- - or just plain C, Pascal, Fortran or even S*BASIC, anything about everything would be appreciated. What if you don't know if your program listing is too long to be short or too short to be long? **NO WORRIES**, we accept medium listings too throughout the year so get writing **NOW!**
Contact us in the usual way, so contact us **NOW!**

If you would like to place a small ad then go to page 2 for full details of how to go about it, options are for QUANTA members as well as non-QUANTA members.


```

630 FOR f= 2 TO ct
640     t(f-1,a)=t(f,a)
650 END FOR f : t(f,a)=0
655 :
660 FOR f= 1 TO ct-2: t(f,b)=t(f+1,a)
670 t(ct-1,b)=t(1,a): t(ct,b)=0
675 :
680 FOR f=1 TO z: nn=t(f,a): t(nn,w)=0
690     kt=ct: FOR f=1 TO z
700     IF t(f,w): t(kt,a)=t(f,w): kt=kt+1
710 END FOR f
715 :
720 FOR f=1 TO z: t(f,w)=0
730 FOR f=ct TO z: t(f,w)=1
740 END DEFine
750 :
760 DEFine PROCedure find_twin
770 LOCAL f,j,aa,bb,cc,ax,ay,bx,by
780 FOR f=1 TO ctr, z+1 TO z+pair
790     IF t(f,w)=2: GO TO 930

```

```

800   aa=t(f,a): IF aa=0: GO TO 930
840   FOR j= ctr+1 TO z
860     IF t(j,w)=2: GO TO 920
870     ax=t(aa,x): ay=t(aa,y): bb=t(f,b)
875     bx=t(bb,x): by=t(bb,y)
880     cc=t(j,a): cx=t(cc,x): cy=t(cc,y)
910     get_twin f,j
920   END FOR j
930 END FOR f: IF twin=0: RETURN
940   t(pair, a)=ta: t(pair, b)=tc
950   t(pair+1,a)=tc: t(pair+1,b)=tb
960   t(twinf,w)=2 : t(twinj,w)=2
970   pair=pair+2
980   REMark Clear out coefficients:
990   FOR f=1 TO zz: t(ta,f)=0
1000  END DEFine
1010  :
1140  DEFine PROCedure get_twin(ff,jj)
1145   LOCal coeff,dx1,dy1,dx2,dy2,dx3,dy3
1150   coeff= t(aa,cc)

```

```
1160 IF coeff<>0: GO TO 1270
1170 dx1=ax-cx: dy1=ay-cy
1180 S1=SQRT(dx1*dx1+dy1*dy1)
1190 dx2=bx-cx: dy2=by-cy
1200 S2=SQRT(dx2*dx2+dy2*dy2)
1210 dx3=ax-bx: dy3=ay-by
1220 S3=SQRT(dx3*dx3+dy3*dy3)
1240 coeff=(S1+S2-S3): t(aa,cc)=coeff
1270 IF coeff<comin THEN
1280     comin=coeff
1290     twinf=ff: twinj=jj: twin=1
1300     ta=aa: tb=bb: tc=cc
1310 END IF
1320 END DEFine
1410 :
1420 DEFine PROCedure find_outers
1430 LOCal loop
1450 REPeat loop
1470     fd=find_next(fd)
1480     IF NOT fd: EXIT loop
```

```
1490 END REPEAT loop

1505 t(ct+1,w)=0: draw_around

1530 END DEFine

1540 :

1550 DEFine FuNction find_next(crnt)

1560 LOCal f,j,dg,nmin,cx1,cy1,tx2,ty2,xx,yy,ng2

1565 dg=2: nmin=1000

1575 REMark look at all points

1600 FOR f=1 TO z

1606 REMark See if outer point found:

1612 FOR j=1 TO z: IF f=t(j,w): GO TO 1760

1651 cx1=t(crnt,x): cy1=t(crnt,y)

1653 IF cy1=ymax: top=1

1660 xx=t(f,x): yy=t(f,y)

1670 cx2=xx-cx1: cy2=yy-cy1

1680 IF cx2=0: cx2=1E-9

1690 ng2=DEG(ATAN_(cy2,cx2))

1700 IF ng2<0: ng2=ng2+360

1710 IF top THEN

1720 SElect ng2: =0 TO 180: GO TO 1760
```

```

1730 END IF

1740 IF ng2<nmin: nmin=ng2: dg=f

1760 END FOR f

1770 t(ct,w)=dg

1780 ct=ct+1: ng=nmin

1790 t(ct,a)=dg: t(ct,b)=crnt: t(1,b)=crn

1800 IF n=dg: RETURN 0: ELSE RETURN dg

1810 END DEFine

1820 :

1920 DEFine PROCedure draw_around

1930 LOCAl f

1950 LINE t(t(ct-1,w),x),t(t(ct-1,w),y)

1960 FOR f=1 TO ct-1

1970     LINE TO t(t(f,w),x),t(t(f,w),y)

1980 END FOR f

1990 END DEFine

2000 :

2010 DEFine FuNction find_lowmost

2020  LOCAl f,tx,ty: ymin=1E19: ymax=0

2030 FOR f=1 TO z

```

```

2040     tx=t(f,x): ty=t(f,y)
2050     IF ty<ymin: ymin=ty: crn=f
2060     IF ty>ymax: ymax=ty
2070 END FOR f
2080  cnx=t(crn,x): cny=t(crn,y)
2100  t(1,w)=crn: t(1,a)=crn
2110  tx1=cnx: ty1=cny: RETURN crn
2120 END DEFine
2130 :
2140 DEFine PROCedure draw_circles
2150 LOCal f,tx,ty
2160 FOR f=1 TO z
2170 tx=t(f,x): ty=t(f,y): POINT tx,ty
2190 END FOR f
2200 END DEFine
2210 :
2220 DEFine PROCedure get_points
2230 LOCal f,qx(pts),qy(pts),tx,ty
2240 IF test: get_data: RETURN
2250  pt=pts-16

```

```

2260 FOR f=1 TO z
2270   tx=RND(5 TO pt)
2280   IF qx(tx):GO TO 2270: ELSE qx(tx)=1
2290   ty=RND(5 TO pt)
2300   IF qy(ty):GO TO 2290: ELSE qy(ty)=1
2310   t(f,x)=tx: t(f,y)=ty
2320 END FOR f
2380 END DEFine
2390 :
2400 DEFine FuNction ATAN_(g,w)
2410   IF w<0 THEN
2420     IF g<0 : RETurn ATAN(g/w)-PI: END IF
2430     IF g>=0: RETurn ATAN(g/w)+PI: END IF
2440   END IF
2450   IF w=0 THEN
2460     IF g<0 : RETurn -PI/2: END IF
2470     IF g>=0: RETurn  PI/2: END IF
2480   END IF
2490   IF w>0 : RETurn ATAN(g/w): END IF
2500 END DEFine

```

2510 :

2520 DEFine PROCedure pr

2530 LOCAl loop,i\$,j\$

2540 SAVE_O win1_shrink_qta: PAUSE 500

2550 OPEN#3,win1_shrink_qta: OPEN#4,par

2560 REPeat loop

2570 INPUT#3,i\$

2580 IF EOF(#3): EXIT loop

2590 j\$=i\$&CHR\$(13): PRINT#4,j\$

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```
2600 END REPEAT loop
2610 PRINT#4,CHR$(12)
2620 CLOSE#4: CLOSE#3
2630 END DEFINE
5000 :
5010 DEFINE PROCEDURE get_data
5020 LOCAL f
5025 RESTORE 5040
5030 FOR f=1 TO z: READ t(f,x),t(f,y): t(f,y)
=1000-t(f,y)
5040 DATA 525,115, 365,585, 620,350
5050 DATA 230,830, 305,675, 535,425
5060 DATA 15,265, 250,140, 590,565
5070 DATA 730,400, 795,630, 380,150
5080 DATA 370,325, 580,35, 450,565
5090 DATA 725,570, 755,840, 810,195
5100 DATA 655,805, 910,340, 810,245
5110 DATA 245,405, 925,785, 495,330
5120 DATA 525,235, 320,845, 410,630
5130 DATA 380,480, 655,185, 230,310
```

5140 DATA 440,165, 690,600, 925,245

5150 DATA 465,805, 410,390, 655,290

5160 END DEFine

5170 :

FEW QUIT

PER WITTE

I'd like to draw attention to some otherwise under-documented keywords in SMSQ/E (you have to dig around the SMSQ/E source code documentation to find any mention of them), namely FEX, FEW, FET, FEP, EX_M, FEX_M and QUIT <error>.

The first few are the function equivalents of procedures EXEC / EX, EXEC_W / EW, ET and EXEP, respectively. EX_M and FEX_M have no equivalents. QUIT now also takes a parameter, which can be any long word, e.g. an error code, and pass it back to the calling program.

The parameters are the same as for the original procedures, so I won't bother you with the details here. The functions all return the ID of the (first) job executed, e.g.

```
jid = FEX_M(my_little_job;<command string>): SPJOB jid, 1
```

..or in the case of the W variants, 0 or any errors returned from that job. EX_M and its function equivalent FEX_M are identical to EX and FEX, except that the job started with EX_M/FEX_M is owned

by the caller, although it returns, and not by the system, as is the case with the other non-W commands. (I guess that is what the `_M` stands for: Mine). So here's a utility I use, to give a taster:

If you use an editor to code S*BASIC, line numbers tend to get in the way, so you do away with them during editing. Once the program is ready to be tested the line numbers have to go back in, or the program won't load or execute.

Of course, if you use QD as your editor, you will no doubt enjoy the convenience of the SBAS/QD Thing; execute the program from within QD at the press of a button - no line numbers required.

However, if you later want to check on one of these line numberless programs, you'll have to load and run them in QD, or find some way of putting the line numbers back before running or executing the program. Under SuperBASIC and Minerva BASIC you could use AUTO as the first line, IIRC. Sadly, this doesn't work in SBASIC.

So, wouldn't it be a lot more convenient to execute numberless programs directly? Here is one solution, or rather a palliative. SBldr [SBasic LoadEr] makes it possible to use FileInfo2, EXEP and EX (and siblings) to execute (most of) these programs directly, as if they were normal jobs.

Yet reams of listings aren't as much fun as they used to be, so I have tried to keep this fully functional demo terse. Any finesse (like error trapping, scanning the stuffer buffer, or ..) is left as an exercise for the avid coder.

In plaintext, here is more or less what it does:

- **If command string CMD\$ has contents**
 - **Attempt to extract the target program's file name and command string**
- **If it hasnt:**
 - **See if there is a valid SBasic file name in the stuffer buffer**
- **If valid file name is found and seems ok, open it, and**
- **If the file has line numbers,**
 - **EXecute it as normal. (But wait till end in case errors.) Done!**
- **Otherwise,**
 - **Open up a temporary file**
 - **For all remaining lines in input file,**
 - **Pre-pend line number and output**
- **Execute a temporary copy of the file**
- **When completed, delete temporary copy, returning any errors**
- **Done!**

You could compile this program or use it as it is. Here are a few suggestions on how it could be deployed. Lets start with the EX family, just to make things clear:

```
er = FEW(<path>SBldr_obj; " <target program name>; <target program command line>"
```

(Of course, any error returned in er could come from SBldr as well as the target program). Note that the trick to pass a command line through SBldr to the target program involves wrapping it into

SBldr's command string. In the FileInfo2 configurator, you can associate SBldr_obj with the _bas extension. Just make sure «devN_name_ext» gets on the stack.

Finally, it can usefully be put on a hotkey. While it's easy enough to run the program you're editing directly from QD, often it is useful to be able to move around your source file and have the program running at the same time. With SBldr on a hotkey, just save your source file so its file name goes to the stuffer buffer, press your hotkey, and presto! your program is running - or not. You could do worse than:

```
ERT HOT_RES1(<key>, "<path>SBldr_obj", "SBldr")
```

There is a danger here, in that a momentary confusion may cause you to execute, instead of the program you intended, one you were hurriedly side tracked into editing and saving a moment ago (but had no intention EVER of using on a live system, as it was merely a demonstration of a recursive delete routine applied to your main hard drive!) While that was in the realm of worst case scenarios, remember: mishaps come in all sizes. You can't see the name in the stuffer buffer, so that makes it vulnerable.

As usual, comments and suggestions are welcome, though not expected (unless I've made MISTakes).

SBldr V0.02

```
10 REMark $$chan=4
```

```
11 :
```

```
12 REMark + -----
```

```

----- +
13 REMark |<                               SBasic LoaDeR
>|
14 REMark +
~~~~~
~~~ +
15 REMark | Executes SBasic programs
|
16 REMark | Adds line numbers to numberless code
via intermed- |
17 REMark | iary file in the same directory (for
the sake of |
18 REMark | HOME_DIR$ &a1).
|
19 REMark | Add to FileInfo2 or use with EX:
|
20 REMark |
|
21 REMark | er = FEW(<SBldr>;"<program>_bas
[;<command_line>]") |
22 REMark |
|
23 REMark | <SBldr> passes optional
<command_line> to <program> |
24 REMark + -----
----- +
25 :
26 l% = LEN(CMD$)
27 IF l% = 0 THEN
28   fnm$ = HOT_GETSTUFF$: l% = LEN(fnm$)
29 ELSE

```

```

30  fnm$ = CMD$
31  END IF
32  IF l% > 0 AND l% < 7: Bye -12
33  :
34  com$= ''
35  s% = ';' INSTR fnm$: REMark Additional command
line?
36  IF s% THEN
37   IF s% < l%: com$ = fnm$(s% + 1 TO l%)
38   l% = s% - 1: fnm$ = fnm$(1 TO l%)
39  END IF
40  :
41  IF NOT fnm$(l% - 2 TO l%) == 'bas': Bye -15
42  IF l% > 37: Bye -12: REMark Extra room for
sbl:
43  ci = FOP_IN(fnm$): IF ci < 0: Bye ci
44  :
45  INPUT#ci; l$
46  IF l$(1) INSTR '123456789' THEN
47   CLOSE#ci
48   Bye FEW(fnm$; com$)
49  END IF
50  :
51  co = FOP_DIR(fnm$): IF co < 0: Bye co
52  nm$ = fnm$(LEN(FNAME$(#co)) + 7 TO l%)
53  CLOSE#co
54  fnm$ = fnm$(1 TO l% - LEN(nm$)) & 'sbl:' & nm$
55  :
56  co = FOP_OVER(fnm$): IF co < 0: Bye co
57  BPUT#co; 49, 32, l$, 10
58  FOR i% = 2 TO 32767

```

```
59 IF EOF(#ci): EXIT i%
60 i$ = i%
61 INPUT#ci; l$: BPUT#co; i$, 32, l$, 10
62 END FOR i%
63 CLOSE#co: CLOSE#ci
64 :
65 er = FEW(fnm$; com$)
66 DELETE fnm$
67 Bye er
68 :
69 DEFine PROCedure Bye(er)
70 IF er < 0: BEEP 3000,255
71 QUIT er
72 END DEFine Bye
```

COMMENT

LEE PRIVETT

So, actually its not my comment but a QUANTA reader, but what are your thoughts? The listing above is a typical example, too small makes it unreadable, to big and the formatting is not how the author originally envisioned for aesthetics. What do you think?

"I like your attempt to sex up the rag. My only disagreement is with the doubly spaced listing lines. It makes listings more fiddly to copy and doesn't look very, ..well, sexy."

SUBGROUP MEETINGS

LONDON QL AND QUANTA GROUP

Meetings are held in the School Room, which is the basement of the Borough Welsh Congregational Chapel, 90, Southwark Bridge Road, London SE1. This is almost opposite the junction with Marshalsea Road, at the other end of which, 5 minutes walk away, is the Borough Underground Station. Free parking is easily available in Southwark Bridge Road for road users, Cyclists are welcome. The Group has some systems stored at the venue for its use. Time: 2.00 pm. to 5.00 pm., on the second Sunday of the month. Only 8 meetings a year. Malcolm Cadman 020 8691 5780 or email: QL@mcad.demon.co.uk

SCOTTISH QL USERS GROUP

SQLUG meets at George Gwilt's home every second Sunday in the month. Please contact George Gwilt before coming, to get the location by email: Gdqqler@gmail.com

SOLENT SUBGROUP

Meetings are at 'Sarisbury Green Parish Rooms' see (http://sqpr.org.uk/?page_id=28) On the first Saturday each month from 1PM to 5PM. Contact Graham Evans 023 8040 3350 or send an email: graham@grayfire.f9.co.uk

NEMQLUG - NORTH EAST MANCHESTER QL USER GROUP

Meetings are held at 181, Urmston Lane, Stretford, Manchester. M32 9EH (Near Junction 7 of M60 Motorway, which was Junction 7 M63 Motorway). Our informal meetings start at 7 pm. and finish at 11 pm. All welcome to our meetings which are held on the last Thursday of each month (except December). Contact John/Sarah Gilpin 0161 865 2872 for further details. or by email: thegilpins@btinternet.com

SURREY QUANTA SUBGROUP (SQSG)

The group is currently trying other venues in the Leatherhead - Epsom area. If you plan to attend but do not get our emails, please phone or email Ken Bain for the latest location. Meetings are 8.00 to 10.00 pm on a Wednesday, hopefully last of each month (none in December), but this can vary. Contact Ken Bain 01932 347432 (to midnight), alternative email: kenb@bcs.org.uk

SUSSEX QL USER GROUP

Currently without a meeting place, anyone interested should contact Roy Wood 01273 430501 or email: qbranch@qbranch.demon.co.uk or Keith Mitchell - 01903 742263.

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All Contributions are Welcome
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